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FISH & RICHARDSON, P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			TSUI, WILSON W	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/760,135	Applicant(s) HAMMERICH ET AL.	
	Examiner Wilson Tsui	Art Unit 2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the application filed on 1/16/2004.
2. Claims 1-18 are pending. Claims 1, 13, and 16 are independent claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 13, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the application" in line 13, page 15. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the application" in line 30, page 16. There is insufficient antecedent basis for this limitation in the claim.

Furthermore, claim 13 recites the limitation for "interpreting the markup language page ..." (page 16, line 23). It is unclear as to whether the client or the server is performing the action of interpreting.

Claim 16 recites the limitation "the application" in line 25, page 17. There is insufficient antecedent basis for this limitation in the claim.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1 and 16 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claims 1, 13, and 15 fail(s) to correspond in scope with that which applicant(s) regard as the invention can be found in the reply filed 1/16/2004. In that paper, applicant has stated "Browser interprets HTML page" (page 6, line 8) for which the "client executes a browser" (page 5, line 17), and this statement indicates that the invention is different from what is defined in the claims because the claims (1, and 16) state "sending a markup language page to a browser on a client", and thus the browser is operated/executed at the client side. Yet, the product of claim 1 is performing the interpreting, instead of the client browser, and additionally the apparatus of claim 16 is performing the interpreting, instead of the client browser.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With regards to claims 1-12, for the claimed "computer program product, tangibly embodied in an information carrier" is similar to a carrier wave. Since carrier waves, being a form of electromagnetic energy, do not fall into one of the statutory categories of 35 U.S.C. 101, the claim includes non-statutory subject matter. A detailed explanation describing why carrier waves are regarded as non-statutory subject matter under 35 U.S.C. 101 follows:

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101.

First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material.

"The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result." Corning v. Burden, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices which perform functions. Indeed, devices such as flip-flops and computers are referred to in computer science as sequential machines. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine.

A "composition of matter" "covers all compositions of two or more substances and includes all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids." Shell

Development Co. v. Watson, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), *aff'd*, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958). A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter.

The Supreme Court has read the term "manufacture" in accordance with its dictionary definition to mean "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery." *Diamond v. Chakrabarty*, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11, 8 USPQ 131, 133 (1931), which, in turn, quotes the Century Dictionary). Other courts have applied similar definitions. See *American Disappearing Bed Co. v. Arnaelsteen*, 182 F. 324, 325 (9th Cir. 1910), *cert. denied*, 220 U.S. 622 (1911). These definitions require physical substance, which a claimed signal does not have. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. *Lorillard v. Pons*, 434 U.S. 575, 580 (1978). Thus, Congress must be presumed to have been aware of the interpretation of manufacture in *American Fruit Growers* when it passed the 1952 Patent Act.

A manufacture is also defined as the residual class of product. 1 Chisum, § 1.02[3] (citing W. Robinson, *The Law of Patents for Useful Inventions* 270 (1890)).

A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require

physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 9-13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheard et al (US Patent: 6,453,356 B1, issued: Sep. 17, 2002, filed: Apr. 15, 1998) in further view of Leech (4GuysFromRolla.com, published: March 3, 2003, pages 1-5).

With regards to claim 1, Sheard et al teaches a product performing:

- *Storing data in transfer format to an object on a server.* whereas, each adapter represents an object such that “each of the adapters include an interface module/object and an object converter module/object.” (column 10, lines 3-4). The adapter’s interface module receives and stores the data in the transfer format in a receive queue (column 54, lines 56-64: whereas a server/adaptor has a receive queue).
- *Converting the data from the transfer format to a process format by the object:* whereas, a transfer format is converted to a process format by an object converter

(column 10, lines 8-12: "the object converter converts the information content component/transfer format to a Common Object Format/process format").

- *Checking compliance of the data according to a preset corruption rule*: whereas, a validation module is used to check compliance of the data (column 10, lines 7-10: "The interface module includes a validation module which validates the type of data" received from a client system). A *preset validation/corruption rule* is implemented as taught in column 11, lines 3-10: "If the data is considered corrupt 336, an error in the data packet received from the external source is verified 338, and, in response, is removed or deleted 340 for purposes of further processing. If the data from the external source is determined to be valid 336, a data exchange transaction is then initiated 342". Furthermore, Sheard et al teaches *forwarding the data in the process format by the object to an application* ("The data associated with the Common Object in the outgoing queue is then validated and packed into a specified structure having a format and name appropriate for the outgoing or destination external data source/application" as indicated in column 11, lines 50-54)

However, Sheard et al does not expressly teach that Sheard et al's translation system:

- *Sends a markup language page to a browser on a client*
- *Interprets the markup language page by the browser to receive data from the user in a transfer format; else, resending the markup language page to the browser with the data in the transfer format.*

Leech teaches a web interface which:

- *Sends a markup language page to a browser on a client:* whereas, a form containing markup language code (C1), is sent to the client (P3, whereas, the form is available on a server, such that the form can be sent to the client, such that the client could save it).
- *Interprets the markup language page by the browser to receive data from the user in a transfer format:* whereas, the users at the client side, fill out the form as they view it in the browser (P1: since the browser displays and collects form data, the markup language page has interpreted the markup language page and received the data in user transfer format). Furthermore, the transfer format is defined as a string type (C2-C3: whereas, the input type is text.)
- *Checks the compliance of the data with a predefined rule* (C4: whereas, the input data is checked against different criteria/rules); *and if the data complies with the predefined rule, forwarding the data in the process format to an application* (C6: whereas, no rules have been violated, and the application/data base has been updated); *else resending the markup language page to the browser with the data in the transfer format* (C5: whereas, there has been at least one rule violation so the client browser is then reloaded with the previously sent form through a redirection command, and the previous transfer data is also reloaded through due to the use of session variables (P5: whereas session variables are used , such that the values of the session are retained through the use of a 'cookie'))).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Sheard et al's product such that it would have included a

web interface for sending and retrieving transfer data, and a validation/compliance/rule-set for the transfer data as taught by Leech et al. The combination of Sheard et al, and Leech would have allowed Sheard et al's system to have implemented server-side validation such that "when the user submits the form, the validation script page is run" (Leech, P4).

With regards to claim 2, which depends on claim 1, Sheard et al, and Leech *teach the transfer format is a string format*, as explained in claim 1, and is rejected under the same rationale.

With regards to claim 3, which depends on claim 1, Sheard et al teaches *wherein the predefined rule is internal to the object*, since the validation module (which includes a predefined corruption rule) is part of the object, as explained in claim 1, and is rejected under the same rationale.

With regards to claim 4, which depends on claim 1, Sheard et al teaches *the predefined rule and the object*, as explained in claim 1, and is rejected under the same rationale. However Sheard et al does not expressly teach *the predefined rule is external to the object*.

Leech teaches *the predefined rule is external to the object* (P2-P3: whereas, the validation rules are enforced at the client side, which is external to the object).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Sheard et al's translation system, such that it includes the ability to enforce predefined rules external to the object, as taught by Leech. The combination of Sheard et al and Leech would have allowed Sheard et al's translation

system to have further included the ability let “the user know immediately that something is wrong” (Leech, P3, without having to send the page/form).

With regards to claim 5, Sheard et al teaches *wherein the operations further comprise storing state information in permanent memory and restoring the object by using the state information* (column 69, lines 10-29: whereas, the objects (containing the data are stored in file storage) such that object persistency is implemented such that “objects are stored and retrieved from a persistent store in an efficient manner”). Thus, object persistency makes it possible to save and retrieve the state of a set of object data.

With regard to claim 9, which is dependent on claim 1, Sheard et al teaches *wherein the object is provided by a software framework running on the server; the software framework being external to the application* (whereas, as explained in claim 1, the object resides on a server). The object is provided/created, though the use of methods that are provided by a software framework (these methods are shown in the Example Figures of Sheard et al's specification). The *software framework is external to the application* (Figure 4, column 1, lines 24-28: whereas legacy or proprietary applications are not involved in the data translation/exchange process, as they are only concerned with receiving and obtaining predefined data types).

With regards to claim 10, which depends on claim 1, Sheard et al teaches using C++ as a programming language (column 13, lines 11-12). Although Sheard et al does not expressly teach that any particular programming language is used, Sheard et al does teach “that other embodiments may be utilized, and structural and functional changes

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may be made" (column 4, lines 39-43) and also other translation systems that also alternative programming languages, such as IDL.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Sheard et al's translation system such that it could have operated under any programming language as also suggested by Sheard et al. The combination would have allowed the translation system to have been tightly integrated with other applications that were implemented in different programming languages.

With regards to claim 11, which depends on claim 1, Sheard et al teaches *wherein the operations do not require any particular flow logic* (column 4, lines 39-43: *whereas, since other functional changes or structural changes can be made, no particular flow logic need be implemented*)).

With regards to claim 12, which depends on claim 1, Sheard et al teaches an *error handling scheme* (Fig. 12). Furthermore, Sheard et al teaches further functional and structural changes can be made to Sheard et al's translation system (column 4, lines 39-43), and thus, the error handling scheme of Sheard et al *does not require any particular error handling scheme*, since a different handling scheme requires functional changes).

With regards to claim 13, for a method performing a similar method as the product in claim 1, is rejected under the same rationale.

With regards to claim 15, which depends on claim 13, for a method performing a similar method as the product in claim 9, is rejected under the same rationale.

With regards to claim 16, for an apparatus performing a similar method as the product in claim 1, is rejected under the same rationale.

With regards to claim 18, which depends on claim 16, for an apparatus performing a similar method as the product in claim 9, is rejected under the same rationale.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheard et al (US Patent: 6,453,356 B1, issued: Sep. 17, 2002, filed: Apr. 15, 1998) and Leech (4GuysFromRolla.com, published: March 3, 2003, pages 1-5) in further view of Burd et al (US Patent: 6,757,900 B1, issued: Jun. 29, 2004, filed: May 18, 2000).

With regards to claim 6, which depends on claim 5, Sheard et al teaches *restoring*, as explained in claim 5, and is rejected under the same rationale. However, Sheard et al does not expressly teach *restoring is delayed until transferring*.

Burd et al teaches *restoring is delayed until transferring* (Fig 10: whereas, it is shown by reference step number 1014, that the state information is restored after the client browser has finished transferring in reference step number 1000).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Sheard et al's restore process to further include the ability to restore after the client has finished transferring the transfer data, as taught by Burd et al. The combination of Sheard et al, and Burd et al would have allowed Sheard et al's translation system to have "managed the state of server-side control objects that process client-side user interface elements of a web page (Burd et al, column 1, lines 21-24).

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheard et al (US Patent: 6,453,356 B1, issued: Sep. 17, 2002, filed: Apr. 15, 1998) and Leech (4GuysFromRolla.com, published: March 3, 2003, pages 1-5) in further view of Lindhorst et al (US Patent: 6,981,215 B1, issued: Dec. 27, 2005, filed: Dec. 31, 1998).

With regards to claim 7, which depends on claim 5, Sheard et al teaches *storing state information in permanent memory*, as explained in claim 5, and is rejected under the same rationale. However, Sheard et al does not teach the storing of state information in permanent memory is *performed by storing in hidden input fields in the page*.

Lindhorst et al teaches the storing of state information in permanent memory is *performed by storing in hidden input fields in the page* (column 14, lines 39-49: whereas, storage/state information is stored in hidden fields in a page).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Sheard et al's system for storing state information to further included the ability to store the state information in hidden input fields in a page as taught by Lindhorst et al. The combination of Sheard et al, Leech, and Lindhorst et al would have allowed Sheard et al to have "simplified the programmer's task of navigating between pages" (Lindhorst et al, column 6, lines 65-67).

9. Claims 8, 14, and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Sheard et al (US Patent: 6,453,356 B1, issued: Sep. 17, 2002, filed: Apr. 15, 1998) and Leech (4GuysFromRolla.com, published: March 3, 2003, pages 1-5) in further view of Jeyaraman (US Patent: 6,331,187 B1, issued: Oct. 30, 2001, filed: Dec. 29, 1998).

With regards to claim 8, which depends on claim 1, Sheard et al and Leech teach maintaining on the client, a copy of the transfer data, as explained in the rejection for claim 1, and also maintaining state information, as explained in the rejection for claim 5. However, Sheard et al and Leech do not expressly teach *maintaining on the client, a copy of the markup language page that was previously sent and wherein resending the markup language page to the client includes: identifying a portion of the markup language page that has changed since the markup language page was previously sent and wherein resending the markup language page to the client includes: identifying a portion of the markup language page that has changed since the markup language page was previously sent; and resending only the portion of the markup language page that has changed.*

Jeyaraman teaches *maintaining on the client, a copy of the markup language page that was previously sent* (Abstract: whereas, the client has cached copies of data.

Furthermore, the data comprises a markup language data, as defined by Jeyaraman as “hierarchically structured data”) *and wherein resending the markup language page to the client includes: identifying a portion of the markup language page that has changed since the markup language page was previously sent* (Abstract: whereas, the identifying includes “determining the differences between the current version of the data at the server and an older copy of the data at the client”); *and resending only the portion of the markup language page that has changed* (Abstract: whereas, the resending includes “using the differences to construct an update for the copy of the data, which may include node insertion and node deletion operations for hierarchically organized nodes in the

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data; and sending the update to the client where the update is applied to the copy of the data to produce an updated copy of the data”).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Sheard et al's data persistence/state system to further have included the ability to propagate changes since the markup language page has been sent to the client, as taught by Jeyaraman. The combination of Sheard et al, Leech, and Jeyaraman would have allowed Sheard et al's system to have “updated copies of hierarchically structured data” (Jeyaraman, column 1, lines 62-64).

With regards to claim 14, which depends on claim 13, for a method performing a similar method as the product of claim 8, is rejected under the same rationale.

With regards to claim 17, which depends on claim 16, for an apparatus performing a similar method as the product of claim 8, is rejected under the same rationale.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hutsch et al (US Application: 2001/0034771 A1, published: Oct. 25, 2001, filed: Jan. 12, 2001): This application teaches a translation system that integrated applications with different data formats.
- Bentley et al (US Patent: 5815415 A, published: Sep. 29, 1998, filed: Mar. 6, 1996): This patent teaches implementing persistence of data and a framework system for integration of data exchange between different platforms.

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- Elmore et al (US Application: US 2006/0059107 A1, published: Mar. 16, 2006, filed: Mar. 30, 2001, EEFD: Mar 30, 2000): This application teaches server side validation.
- Helgeson et al (US Patent: 6,643,652 B2, published: Nov. 4, 2003, filed: Jan. 12, 2001): This patent teaches information/data exchange using an XML transfer format.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wilson Tsui whose telephone number is (571)272-7596. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

W.T. 5/4/06

Wilson Tsui

Application/Control Number: 10/760,135

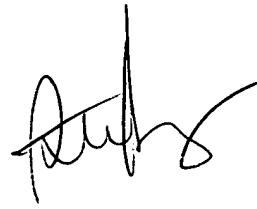
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Patent Examiner

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A handwritten signature in black ink, appearing to read 'Stephen Hong', with a stylized, cursive script.

STEPHEN HONG
SUPERVISORY PATENT EXAMINER